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Description of the Invention

Applicant's invention relates to materials having a decorative or artistic appearance having two or more layers each having a principal color, where the observed color of at least one light transmitting layer, when viewed along said edge, appears different than its principal color.

REMARKS

Claims 1-30 are pending, and stand finally rejected.

Claim 31 has been cancelled.

RESPONSE TO THE EXAMINER'S RESPONSE TO APPLICANT'S ARGUMENTS

The Examiner contends that the Oshima reference describes an article that when viewed along an exposed light transmitting edge appears different than its principle color. The Examiner further contends that since the Oshima reference describes a sheet having a color tone or colors changeable with the angle of observation, that such an effect would applied to both a surface and an edge. The Oshima reference does not describe a light transmitting edge, but rather a light transmitting face. Moreover, both the observed effect, and cause of the observed effect are different between the Oshima face and Applicant's edge.

Invention: In Applicant's invention, as described in paragraph [0035] of the original specification, the edgewise, angular multi-chromatic effect is related to a contribution to the observed color from internal reflection (totally or partially). Were one to look directly straight through an edge, only the principle color would be observed. As the viewing angle changes, the light that is observed is that reflected off the surfaces inside the multi-layer article that are parallel to the path the light would have taken if viewed at a 90° angle from the edge, as light bounces its way through the layer. The color is then a mixture of the principle layer color, plus the reflection off one or more other adjacent layer surfaces of a second (and third) primary color. The edge-view allows for multiple

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internal light reflections (and primary color mixing) at even small angles off of 90° from the edge.

Oshima: In the Oshima invention, a surface view is required to see completely through the sheet through the stripes in the front and rear surfaces – which create different light/dark patterns depending on the alignment of the stripes ~ which changes with viewing angle. The amount of internal reflection for the edges of the sheet is negligible, and plays no part in the color or color change.

The Oshima reference fails to teach or suggest Applicant's claim elements and limitations, and therefore fails to present a prima facie case of either obviousness or anticipation. Specifically the Oshima reference fails to teach or suggest: "edge exposing at least one light transmitting layer", "when viewed along the edge", and "appears different than its principal color".

1. Edge exposing at least one light transmitting layer: Applicant's invention claims viewing from an edge of an article that includes a major contribution from internally reflected light to appear different from the principle color(s). Applicant's examples include a multi-layer sheet as thin as 0.236 inches (two 0.118 inch sheets together). In the Oshima examples, sheets of 0.2 to 0.4 mm having printing were used. These sheets are 100 times thinner than Applicant's sheets- having only a very thin edge. The amount of "edge" exposing a light transmitting surface in the Oshima reference is so small as to be de minimis.
2. "when viewed along the edge": The Oshima reference does not teach or suggest viewing an article from the edge, and instead teaches away from any edge view. Effect in the Oshima reference is seen only when viewing "through the thickness of the sheet body" (col. 1, line 44). A bright pattern is seen when the angle of observation is such that light passes through both the front and rear stripes, while a dark pattern is seen when the light strikes a stripe on either the front or back surface. The Oshima effect is related to light either passing directly through the sheet, or not passing through at all. The Oshima effect cannot be seen unless looking at an article at an angle relatively perpendicular to the sheet and patterns on the front and rear. Applicant's claims require observation at an angle relatively perpendicular to an edge of the article. These viewing angles are opposite of each

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other, thus the Oshima reference not only fails to teach or suggest Applicant's viewing edge angle, but teaches away from such an angle.

3. "tone" vs "primary color": The Effect in the Oshima reference is related to light either passing directly through the sheet, or not passing through at all. When a colored striped pattern is used, the color tone can change from dark to light, as light passes through or does not pass through the colored pattern. While the "tone" of the principle color may change from light to dark, the observed color is still (some intensity of) the principle color. Applicant's effect is very different, in which the color observed is different than the principle color (as it is a blend of the principle color(s) of the light transmitting layers with internal reflection of principle colors of other layers. Thus in Example 3 of the specification, Blue and Yellow layers gave an observed edge color of green; and in example 5 a yellow-green and black opaque multi-layer article, gave an observed blackish-green edge.

35 U.S.C. §103

Claims 9-11, 14-17, 20 and 22-26 stand rejected under 35 U.S.C. 103(a) as being anticipated by Oshima et al (US 6,103,345) in view of Lecoeur et al (US 3,940,523). The references fail to teach or suggest all of Applicant's claim elements, thus no *prima facie* case of obviousness is presented. Specifically, the references fail to teach or suggest an article comprising two or more layers having a principal color, that when viewed along an exposed light transmitting edge appears different than its principal color.

First there is no motivation to combine the two references. The Oshima reference is to a single layer with stripes on one or both sides, while the Lecoeur reference contains at least 5 layers. There is no motivation to combine references teaching such a disparate number of layers, and indeed such a modification of a single layer by a 5-layer structure would render the prior art unsatisfactory for its intended use (MPEP 2143).

More importantly, the cited references describe only effects related to the faces of a sheet – not to the edge effect, and claimed by Applicant. Moreover, there is no teaching or suggestion in either reference of Applicant's claimed effect of each layer having a principal color, and the article, when viewed from the edge appears different than its principal color.

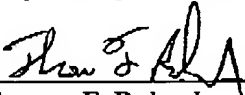
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Since neither reference alone or combined (though there is no motivation to combine) teach or suggest the decorative or artistic appearance calimed by Applicant: an edge effect in which the edge appears different than the principal color of the layers of the article.

Conclusion

The references cited, either alone or in combination, fail to teach or suggest all of Applicant's claim elements and claim limitations, and therefore fail to present a *prima facie* case of anticipation or obviousness over Applicant's claims. For the above reasons the present claims are believed by the Applicant to be novel and unobvious over the prior art, thus the claims herein should be allowable to the Applicant. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,



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